

# 3M™ Wire Connector O/B+

Data Sheet

September 2013

## Product Description

Use a 3M™ Wire Connector O/B+ to electrically connect two or more conductor ends in a pigtail application and insulate the connection.

## Agency Approvals & Self Certifications



LISTED  
WIRE  
CONNECTOR  
314R

Underwriters Laboratories  
Standard NO. UL 486C  
3M File NO. E23438



Canadian Standards  
Association  
Standard NO. 22.2  
NO. 188-M1983  
3M File NO. LR15503



IEC Publications  
685-1 and 685-2-4  
3M File NO. E95240

### UL Listed

As a Pressure Wire Connector tested per UL Standard 486C UL File No. E23438

Operating Temperature: 105°C (221°F) Voltage Rating: 600 volts max. Building wire 1000 volts max. signs and lighting fixtures (luminaries)

Flammability Rating: UL94 V-2

### CSA Certified

CSA Standard C22.2 No. 188-M1983, CSA File No. LR15503

Operating Temperature: 105°C (221°F) Voltage Rating: 600 volts max. Building wire 1000 volts max. signs and lighting fixtures (luminaries)

Flammability Rating: C22.2 No. 0.6 V-2

### Federal Specification W-S-610

“Commercial Package Only”

Type	Class	Kind	Style
1	1	cu	G

## Applications

AWG Range: COPPER conductors only, No. 22 thru No. 12 solid and/or stranded.

METRIC Range: COPPER conductors only, 0,5 mm<sup>2</sup> thru 2,5 mm<sup>2</sup>, ridged (solid or stranded) and flexible (See wire matrix for specific wire combinations.)

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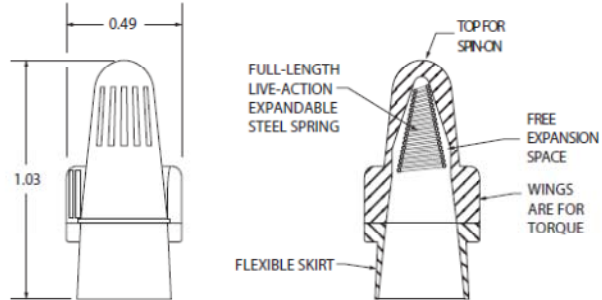
## Specifications - Product

Weight: 0.0025 lbs. (1,13 gm)

Construction:

Spring: Spring steel, corrosion-resistant coating

Insulator: Flame retardant, polypropylene and thermoplastic elastomer, color coded; orange/blue



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## Specifications – Engineering/ Architectural

3M™ Wire Connector O/B+ is capable of connecting two or more wires in a pigtail application, in the wire range of No. 22 thru No. 12 AWG solid and/or stranded copper conductors. The connector shall be constructed with an active (live) spring with a corrosion resistant coating.

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# 3M™ Wire Connector O/B+

## Typical Physical and Electrical Properties

Performance Test (The following tests were performed to the specifications of UL Standard 486C and CSA Standard C22.2 No. 188-M1983.) unless stated	
Test	Typical Value
Static -Heating	Pass
Secureness	Pass
Pullout	Pass
Dielectric Voltage Withstand	Pass
Secureness-Of-Insulation	Pass
Flammability	Pass
Salt Spray (Per MIL-STS-1344A Method 1001.1)	Pass
Vibration (Per MIL-STS-1344A Method 2005.1)	Pass
UV Exposure (Per ASTM G-53-77)	Pass

## Fluid Immersion Test

Typical Reagents and Materials From ASTM D 543-87 and MIL-STD-1344A (Connectors were immersed in the following chemicals for seven days at 23°C ±2°C.	
Acetic Acid	Pass
Acetone	Pass
Detergent Solution, Heavy Duty	Pass
Ethyl Alcohol (95%)	Pass
Ethyl Alcohol (50%)	Pass
Heptane	Pass
Hydrogen Peroxide Solution 28%	Pass
Methyl Alcohol	Pass
Sodium Hydroxide Solution	Pass
Mineral Sprit	Pass
Lubricating Oil	Pass

## Installation Techniques

### CAUTION

Turn power off before installing or removing connector. All electrical work should be done according to appropriate electrical codes.

1. Strip wire insulation:  
22–16 AWG = 5/8" 14–12 AWG = 1/2"
2. Firmly grasp wires, making sure insulation ends are even and tightly bundled. (Wires may be twisted or untwisted.) Slip the connector over wire tips.
3. Turn connector onto wires in clockwise direction until secure.
4. To remove, turn connector counter-clockwise.

# 3M™ Wire Connector O/B+

## Wire Matrix

													Metric Wire Combination			
													Cross Section Capacity			
													1,0 mm <sup>2</sup> through 5,0 mm <sup>2</sup>			
													Conductor Combinations	Quantity	Size	Type
														2-6	0,5 mm <sup>2</sup>	sol./str.
														2-5	0,75 mm <sup>2</sup>	sol./str.
														2-4	1,0 mm <sup>2</sup>	sol./str.
														2-4	1,5 mm <sup>2</sup>	sol./str.
														3	2,5 mm <sup>2</sup>	sol.
													*Only AWG wire size combinations are UL LISTED or CSA Certified.			
22 STR	1 2 3 4 5 6															
22 SOL	1 2 3 4 5 6															
20 STR	1 2 3 4 5															
20 SOL	1 2 3 4 5															
18 STR	1 2 3 4															
18 SOL	1 2 3 4															
16 STR	1 2 3 4															
16 SOL	1 2 3 4															
14 STR	1 2 3															
14 SOL	1 2 3															
12 STR	1 2															
12 SOL	1 2															
O/B+	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5	1 2 3 4 5	1 2 3 4	1 2 3 4	1 2 3	1 2 3	1 2	1 2	1	1				
	22 STR	22 SOL	20 STR	20 SOL	18 STR	18 SOL	16 STR	16 SOL	14 STR	14 SOL	12 STR	12 SOL				

## 3M™ Wire Connector O/B+

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**Shelf-Life & Storage**

This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

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**Availability**

Please contact your local distributor; available from [3M.com/electrical](http://3M.com/electrical) {Where to Buy} or call 1-800-245-3573.

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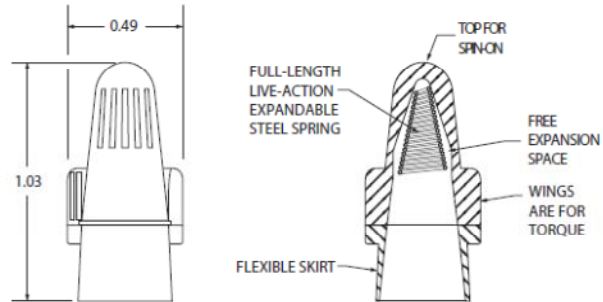
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22 SOL	1 2 3 4 5 6	1 2 3 4 5 6											
20 STR	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5										
20 SOL	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5									
18 STR	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4								
18 SOL	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4							
16 STR	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
16 SOL	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4					
14 STR	1 2 3	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3				
14 SOL	1 2 3	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3	1 2 3			
12 STR	1 2					1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3		
12 SOL	1 2					1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
O/B+	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5	1 2 3 4 5	1 2 3 4	1 2 3 4	1 2 3	1 2 3	1 2	1 2	1	1	
	22 STR	22 SOL	20 STR	20 SOL	18 STR	18 SOL	16 STR	16 SOL	14 STR	14 SOL	12 STR	12 SOL	

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